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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/291,748 | 04/14/1999 | FREDERIC GOURGUE | Q053991 | 2494 |

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| EXAMINER |
|---|
| SWICKHAMER, CHRISTOPHER M |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2697 | |

DATE MAILED: 02/28/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 07-01)

| Office Action Summary | Application No. 09/291,748 | Applicant(s) GOURGUE ET AL. |
|---|---|---|
| | Examiner Christopher M Swickhamer | Art Unit 2697 |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1) ☐ Responsive to communication(s) filed on _____ .

2a) ☐ This action is **FINAL**.  2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

4) ☒ Claim(s) _1-6_ is/are pending in the application.

　　4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) _1,3,5 and 6_ is/are rejected.

7) ☐ Claim(s) _2 and 4_ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

## Application Papers

9) ☒ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on _14 April 1999_ is/are: a)☐ accepted or b)☒ objected to by the Examiner.

　　Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

　　If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

　　a)☒ All  b)☐ Some * c)☐ None of:

　　　1. ☒ Certified copies of the priority documents have been received.

　　　2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

　　　3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

　　* See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

　　a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _7_ .

4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____ .

## DETAILED ACTION

### *Drawings*

1.    The drawings are objected to because drawings 4-7 are missing labels as to what each of the components are, as represented by the blocks.  Appropriate labels would be a "scrambler," for example.

2.    Figure 8 is objected since the figure misrepresents the lengths of the sequences S, S', and S". The length of the non-spread and non-scrambled sequence S is length $Q_{max}/Q_k$, while the length of the spread sequence S'. Additionally the length of the spread and scrambled sequence S" is $Q_{max}$. The figure should appears to show that the length of S, S', and S" are equal.

3.    The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "8" has been used to designate both "means of descrambling" and "means for dispreading" on page 9, lines 9-11.  This list is not inclusive; the specification and the drawings must be checked to make sure that each component is uniquely and consistently labeled in the drawing and the specification.

4.    Figure 4 & 5 are objected to since there are no dots, or any other visual aid to indicate that there are more than 2 sequences.  For example, in figure 4, the drawing shows only ST1 and STK.  Appropriate vertical dots should be added to indicate there are k sequences, as described in the specification.  A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application.  The objection to the drawings will not be held in abeyance.

## *Specification*

5.    Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

- The current abstract should not contain the legal phraseology of the term "means."

6.    The disclosure is objected to because of the following informalities: The word "suffixes" is misspelled on page 4, line 29. This list is not inclusive; the specification must be checked for spelling and grammatical errors.

Appropriate correction is required.

## *Claim Rejections - 35 USC § 103*

7.    The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8.    Claims 1, 3 & 5-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bottomley (WO 9605668, see IDS) in view of Popovic (US Patent 6,393,047). Referring to Claim 1, Bottomley discloses a CDMA spreading device with a common scrambling code, in

particular for transmission in a code division multiple access cellular mobile radio system, the

device including, on transmission, scrambling means for applying a scrambling code of length N

($Q_{max}$) which is a multiple of said different spreading factors, to blocks of N ($Q_{max}$) basic

symbols obtained by spreading by means (Fig. 1, abstract, pg 4, lns. 13-pg. 7, lns. 22).

Bottomley does not expressly disclose a device enabling different spreading factors with a

common spreading code, or scrambling with a code of length $Q_{max}$, which is a multiple of any of

the spreading factors. Popovic discloses a CDMA system to support variable rate transmission

services that use spreading codes whose length is an integer multiple of each spreading factor

(abstract). Popovic states that the spreading code can also be a scrambling code (col. 1, lns. 19-

21). At the time the invention was made, it would have been obvious to one of ordinary skill in

the art to combine the CDMA system with a common scrambling code, with the scrambling code

length being a multiple of the spreading factor. One of ordinary skill in the art would have been

motivated to do this since having the spreading or scrambling code length expressible as an

integer multiple of each spreading factor in the system significantly alleviates overall

synchronization in the receiver making it independent of the data rate (col. 3, lns. 7-9).

    - Referring to Claim 3, Bottomley discloses a device with a common scrambling code, in

particular for transmission in a code division multiple access cellular mobile radio system, the

device including, on reception, descrambling means for applying a scrambling a code of length N

($Q_{max}$), to blocks of N ($Q_{max}$) basic symbols obtained by spreading means (pg. 6, lns. 4-pg. 7, lns.

22). Bottomley does not expressly disclose a receiving device enabling different spreading

factors with a common spreading code, or descrambling with a code of length $Q_{max}$, which is a

multiple of any of the spreading factors. Popovic discloses a CDMA system to support variable

rate transmission services that use spreading codes whose length is an integer multiple of each

spreading factor (abstract), which would also despread the code at the receiver (col. 5, lns. 47-

51). Popovic states that the spreading code can also be a scrambling code (col. 1, lns. 19-21). At

the time the invention was made, it would have been obvious to one of ordinary skill in the art to

combine the CDMA system with a common scrambling code, with the scrambling code length

being a multiple of the spreading factor. One of ordinary skill in the art would have been

motivated to do this since having the spreading or scrambling code length expressible as an

integer multiple of each spreading factor in the system significantly alleviates overall

synchronization in the receiver making it independent of the data rate (col. 3, lns. 7-9).

- Referring to Claim 5, Bottomley and Popovic disclose a mobile station for a mobile

radio communication system, comprising a device according to Claim 1 (abstract).

- Referring to Claim 6, Bottomley discloses an entity, in particular base transceiver

station, for a mobile radio communication system, comprising a device according to Claim 1

(Fig. 1, pg. 14, lns. 14-pg. 15, lns. 23).


### *Allowable Subject Matter*

9.      Claims 2 & 4 are objected to as being dependent upon a rejected base claim, but would be

allowable if rewritten in independent form including all of the limitations of the base claim and

any intervening claims.

- Claims 2 & 4 are allowable over the prior art in combination with Claim 1 since the

cited reference fails to particularly disclose a device that groups the kth incoming sequence (k=1,

. . ., K) into different blocks of $Q_{max}/Q_k$ symbols and spreading/despreading the different blocks

from the kth incoming sequence (k=1, ..., K) by means of the corresponding code of length $Q_k$ to

obtain a spread sequence including different spread blocks of length $Q_{max}$, and further

scrambling/descrambling the sequences of length $Q_{max}$. It is noted the closest prior art of record,

Popovic shows a similar scrambling/descrambling method with a spreading or scrambling code

using a code whose length is of multiples of the spreading factors. However, Popovic fails to

disclose grouping the sequences into blocks whose lengths are determined by the length of the

scrambling code divided by the different spreading factors.


### *Conclusion*

10.    The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure.

- Uesugi et al, US Patent No. 6,424,618. *Code Generating Method and Code Selecting Method.*

- Grau Jr. et al, US Patent No. 5,077,753. *Radio Communication System using Spread Spectrum Techniques.*

- Dahlman et al, US Patent No. 6,222,875. *Low-Delay Rate Detection for Variable Rate Communication Systems.*

- Ostberg et al, US Patent No. 6,504,830. *Method, Apparatus, and System for Fast Base Synchronization and Sector Identification.*

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Christopher M Swickhamer whose telephone number is (703)

306.4820. The examiner can normally be reached on 8:00-4:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Ricky Ngo can be reached on (703) 305.4798. The fax phone numbers for the

organization where this application or proceeding is assigned are (703) 308.9571 for regular

communications and (703) 827.9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding

should be directed to the receptionist whose telephone number is (703) 305.3900.


CMS
February 20, 2003


                              RICKY NGO
                        PRIMARY EXAMINER